



Volunteer Lake Assessment Program Individual Lake Reports

PHILLIPS POND, SANDOWN, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	2,006	Max. Depth (m):	5.8	Flushing Rate (yr ⁻¹):	3.7	Year	Trophic class	Known Exotic Species
Surface Area (Ac.):	85	Mean Depth (m):	3.1	P Retention Coef:	0.54	1977	MESOTROPHIC	Fanwort
Shore Length (m):	2,600	Volume (m ³):	1,058,500	Elevation (ft):	212	1990	MESOTROPHIC	

TROPHIC CLASSIFICATION

KNOWN EXOTIC SPECIES

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

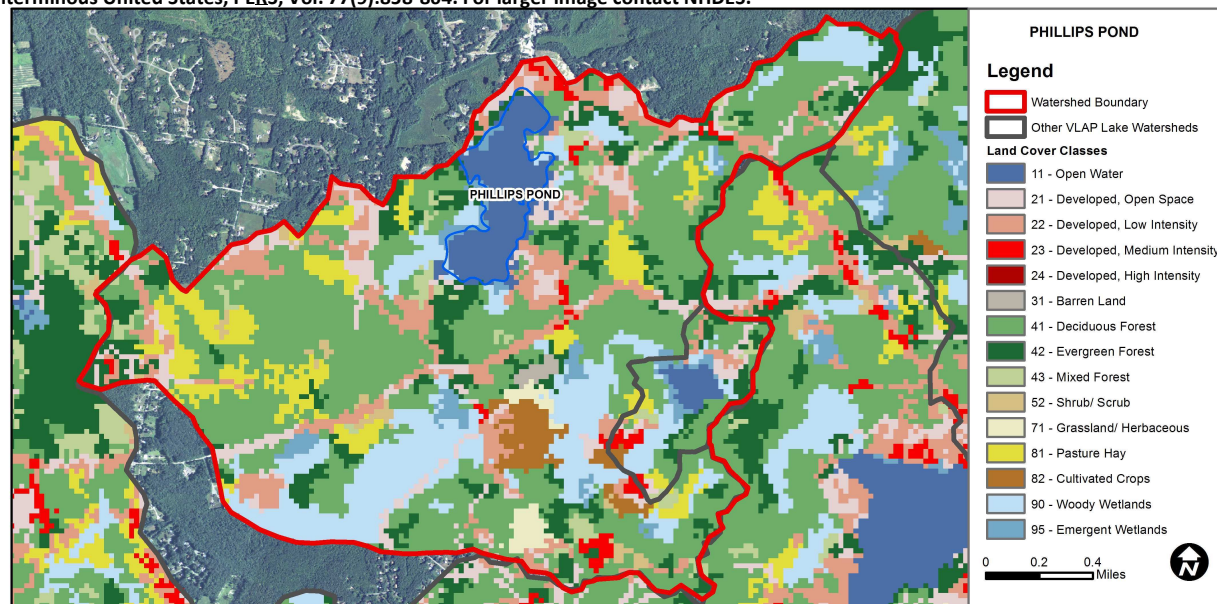
Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Slightly Bad	>/=5 samples and median is >threshold.
	pH	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	D.O. (mg/L)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	D.O. (% sat)	Cautionary	< 10 samples and 1 exceedance of criteria. More data needed.
	Chlorophyll-a	Slightly Bad	>5 samples and median is > threshold.
Primary Contact Recreation	E. coli	Good	Geometric means < criteria; however at least 1 exceedance of the single sample criteria occurred.
	Cyanobacteria	Slightly Bad	Cyanobacteria bloom(s).
	Chlorophyll-a	Good	At least 10 samples with 1 sample but < 10% of samples exceeding criteria.

BEACH PRIMARY CONTACT ASSESSMENT STATUS

PHILLIPS POND - SEELEY TOWN BEACH	E. coli	Good	Geometric means < criteria; however at least 1 exceedance of the single sample criteria occurred.
PHILLIPS POND - SEELEY TOWN BEACH	Cyanobacteria	Slightly Bad	Cyanobacteria bloom(s).

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	5.42	Barren Land	0.36	Grassland/Herbaceous	0.98
Developed-Open Space	7.18	Deciduous Forest	38.38	Pasture Hay	6.56
Developed-Low Intensity	9.29	Evergreen Forest	9.97	Cultivated Crops	1.91
Developed-Medium Intensity	1.39	Mixed Forest	1.97	Woody Wetlands	13.57
Developed-High Intensity	0	Shrub-Scrub	0.97	Emergent Wetlands	2.13



VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

PHILLIPS POND, SANDOWN, NH

2012 DATA SUMMARY

OBSERVATIONS AND RECOMMENDATIONS (Refer to Table 1 and Historical Deep Spot Data Graphic)

- 🔥 **CHLOROPHYLL-A:** Chlorophyll levels remained relatively stable throughout the summer however are greater than the NH lake median.
- 🔥 **CONDUCTIVITY/CHLORIDE:** Conductivity and chloride were elevated and much greater than the NH lake median values.
- 🔥 **TOTAL PHOSPHORUS:** Epilimnetic (upper water layer) phosphorus levels remained relatively stable throughout the summer however were greater than the NH lake median. Hypolimnetic (lower water layer) phosphorus levels were elevated in July and August and turbidity was also elevated potentially due to low water levels and sediment contamination. Inlet phosphorus was elevated throughout the summer potentially due to low water flow.
- 🔥 **TRANSPARENCY:** Transparency was relatively stable throughout the summer and was less than the NH lake median.
- 🔥 **TURBIDITY:** Hypolimnetic turbidity was elevated in July and August likely due to low water levels, and the proximity of sample to the lake bottom yielding sediment contamination.
- 🔥 **pH:** pH levels were generally sufficient to support aquatic life, however historically have been lower than desirable.
- 🔥 **RECOMMENDED ACTIONS:** Phosphorus and chlorophyll levels are higher than desirable likely due to various non-point sources of pollution entering the pond through stormwater runoff. Educate watershed residents on ways to reduce stormwater runoff from their properties utilizing DES' "NH Homeowner's Guide to Stormwater Management". Educate residents on reducing fertilizer usage and using no phosphate fertilizers. Consider developing a Watershed Management Plan to identify watershed pollutions sources and implement best management practices to reduce pollutant loading.

Station Name	Table 1. 2012 Average Water Quality Data for PHILLIPS POND								
	Alk.	Chlor-a	Chloride	Cond.	Total P	Trans.		Turb.	pH
	mg/l	ug/l	mg/l	uS/cm	ug/l	m		ntu	
						NVS	VS		
Deep Epilimnion	13.8	6.99	35	186.0	17	1.69	1.98	1.50	6.86
Deep Hypolimnion				188.4	26			6.47	6.57
Inlet			25	163.6	44			1.00	6.80
Metacomet Inlet			33	112.6	16			0.60	6.16
Outlet			38	187.3	18			1.10	6.54

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.

Alkalinity: 4.9 mg/L

Chlorophyll-a: 4.58 mg/m³

Conductivity: 40.0 uS/cm

Chloride: 4 mg/L

Total Phosphorus: 12 ug/L

Transparency: 3.2 m

pH: 6.6

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.

Chloride: < 230 mg/L (chronic)

E. coli: > 88 cts/100 mL – public beach

E. coli: > 406 cts/100 mL – surface waters

Turbidity: > 10 NTU above natural level

pH: 6.5-8.0 (unless naturally occurring)

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation
Chlorophyll-a	N/A	Ten consecutive years of data necessary for trend analysis.
Transparency	N/A	Ten consecutive years of data necessary for trend analysis.
Phosphorus (epilimnion)	N/A	Ten consecutive years of data necessary for trend analysis.

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